

AMENDMENTS TO THE CLAIMS

Please amend Claim 11 and 17 as follows.

LISTING OF CLAIMS

1. (previously presented) A shock absorber piston assembly, comprising:
 - a shock absorber piston having a first face and an opposed second face;
 - a plurality of fluid passages extending between the first face and the second face; and
 - a plurality of single direction valves attached to the piston, including:
 - at least two single direction rebound valves, each connectable to at least one of the fluid passages; and
 - at least two single direction compression valves, each connectable to at least one of the fluid passages;
 - wherein each of the single direction rebound valves actuates at a different individually adjustable rebound valve opening pressure, each of the single direction compression valves actuates at a different individually adjustable compression valve opening pressure and each of the single direction valves comprises:
 - a pin having a threaded connection end;
 - a compressible device connectable to the pin, the compressible device creating a preload to urge the valve into a closed position; and,
 - a fastener fastened to the threaded connection end, the fastener operably engaging the compressible device, the fastener comprising a threaded nut threadingly received on the threaded connection end, the threaded nut operable to vary the preload of the compressible device.

2. (cancelled)

3. (previously presented) The piston assembly of Claim 1, wherein each of the compressible devices comprises a spring defining a spring rate selectable to vary the valve opening pressure.

4. (previously presented) The piston assembly of Claim 1, wherein each compressible device of each rebound valve comprises a coiled spring defining a spring rate selectable to vary the valve opening pressure between individual ones of the rebound valves.

5. (previously presented) The piston assembly of Claim 1, wherein each compressible device of each compression valve comprises a coiled spring defining a spring rate selectable to vary the valve opening pressure between individual ones of the compression valves.

6. (original) The piston assembly of Claim 1, comprising a bleed disc included with at least one of the valves.

7. (previously presented) The piston assembly of Claim 1, wherein each of the valves further comprises:

a washer slidably connected with the threaded pin connection end, the washer being located between the fastener and the compressible device.

8. (cancelled)

9. (original) The piston assembly of Claim 7, comprising at least one shim disc disposed between the washer and the compressible device to vary a preload of the compressible device.

10. (original) The piston assembly of Claim 1, comprising:
a shock absorber fluid in contact with both the first face and the second face;
wherein each of the rebound valves is operable to control a first direction flow of the shock absorber fluid from the first face toward the second face; and
wherein each of the compression valves is operable to control a second direction flow of the shock absorber fluid from the second face toward the first face.

11. (currently amended) A shock absorber, comprising:
a tube forming a pressure chamber and operably containing a fluid;
a piston assembly slidably positionable within the tube, the piston assembly dividing the pressure chamber into a first working chamber and a second working chamber, the piston assembly including:

(i) a piston defining a plurality of fluid passages extending between the first working chamber and the second working chamber;

(ii) at least two single direction rebound valves attached to the piston operably controlling a flow of the fluid from the first working chamber to the second working chamber; and

(iii) at least two single direction compression valves oppositely attached to the piston from the rebound valves, the compression valves operably controlling a flow of the fluid from the second working chamber to the first working chamber;

wherein each of the single direction rebound valves actuates at a different individually adjustable rebound valve opening pressure, each of the single direction compression valves actuates at a different individually adjustable compression valve opening pressure and each of the single direction rebound valves and the single direction compression valves comprises:

a pin having a threaded connection end;

a compressible device connectable to the pin, the compressible device creating a preload to urge the valve into a closed position; and,

a fastener fastened to the threaded connection end, the fastener operably engaging the compressible device, the fastener comprising a threaded nut threadingly received on the threaded connection end, the threaded nut operable to vary the preload of the compressible device.

12. (original) The shock absorber of Claim 11, wherein the fluid comprises a gas.

13. (original) The shock absorber of Claim 11, wherein the fluid comprises a hydrocarbon based liquid.

14. (previously presented) The shock absorber of Claim 11, wherein each of the rebound valves and the compression valves further comprise:

a washer mechanically linking the compressible device to the pin; and

a valve plate engageable with the piston operably sealing one of the fluid passages of the piston in a closed position of one of the rebound valves and the compression valves.

15. (original) The shock absorber of Claim 14, wherein the piston comprises a land adjacent each of the fluid passages, each land operably engaged by the valve plate in the closed position of one of the rebound valves and the compression valves.

16. (original) The shock absorber of Claim 14, wherein the compressible device comprises a spring.

17. (currently amended) A shock absorber, comprising:

a piston tube;

a piston assembly slidably disposed within the piston tube and operably dividing the piston tube into a first working chamber and a second working chamber, the piston assembly including:

a shock absorber piston having a first face and an opposed second face;

a plurality of fluid passages extending between the first face and the second face; and

a plurality of single direction valves attached to the piston, including:

at least two single direction rebound valves, each connectable to at least one of the fluid passages; and

at least two single direction compression valves, each connectable to at least one of the fluid passages; and

a piston rod fastenably attached to the piston assembly, wherein each of the single direction rebound valves actuates at a different individually adjustable rebound valve opening pressure, each of the single direction compression valves actuates at a different individually adjustable compression valve opening pressure and each of the plurality of valves comprises:

a pin having a threaded connection end;

a compressible device connectable to the pin, the compressible device being creating a preload to urge the valve into a closed position; and,

a fastener fastened to the threaded connection end, the fastener operably engaging the compressible device, the fastener comprising a threaded nut threadingly

received on the threaded connection end, the threaded nut operable to vary the preload of the compressible device.

18. (previously presented) The shock absorber of Claim 17, wherein the piston rod comprises a first end fitting adapted to connect to an automobile vehicle.

19. (original) The shock absorber of Claim 17, comprising:
a tubular end slidably disposed over both the piston tube and a freely extending end of the piston rod; and
a second end fitting fixedly connectable to the freely extending end of the piston rod and operably connecting the shock absorber to a vehicle body of an automobile vehicle.

20. (previously presented) A method to dampen an automobile vehicle ride deflection, the vehicle having at least one shock absorber, each shock absorber having a piston with a first face and a second face and a plurality of through fluid passages, the method comprising:

orienting at least two single direction rebound valves with select fluid passages of the piston to open toward the first face of the piston;

arranging at least two single direction compression valves with select fluid passages of the piston to open toward the second face of the piston the at least two single direction compression valves being separate from the at least two single direction rebound valves;

rotating a nut to adjust each of the rebound valves to open sequentially upon exposure to a predetermined set of increasing first face fluid pressures; and
preconditioning each of the compression valves to open sequentially upon exposure to a predetermined set of increasing second face fluid pressures.

21. (previously presented) The method of Claim 20, comprising preloading a spring in each of the compression valves and the rebound valves during the rotating and the preconditioning steps.

22. (original) The method of Claim 20, comprising shimming at least one of the compression valves and the rebound valves.

23. (original) The method of Claim 20, comprising varying a diameter of at least one of the fluid passages.